Sheet 1 of 3

Benjamin Meseguer et al   Filing Date   Group	Form PTO 1449 Rev. 7-80		U.S. Department of C Patent and Trademark	Office		Atty. Docket No. CH-7913/LeA 36.338		Serial No. To Be Assigned				
Filing Date   Group	Lis					Applicant Benjamin Meseguer e	t al					
EXAMINER INITIAL  DOCUMENT NUMBER  DATE  NAME  CLASS  SUBCLASS  FILING  IF APP PRIA  AA  AB  AC  AD  AE  AF  AG  AH  AI  AI  AI  AI  AI  AI  AI  AI  AN  DOCUMENT NUMBER  DATE  FOREIGN PATENT DOCUMENTS  FOREIGN PATENT DOCUMENTS  COUNTRY  CLASS  SUBCLASS  TRANSLAY Yes  TRANSLAY Yes  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry Asymmetry and Conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2		(430	octoral oneces il itoo	555ui <b>y</b> /			t ai	Group				
EXAMINER INITIAL  DOCUMENT NUMBER  DATE  NAME  CLASS  SUBCLASS  FILING IF APP PRIA  AA  AB  AC  AD  AE  AF  AG  AH  AI  AJ  AJ  AK  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLAY Yes  AL  01/94278  12/13/01 World  AM  02/04466  01/17/02 World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, and a conjugate addition of 4leyn) zinc ton evaluable with a conjugate addition of 4leyn) zinc ton evaluable with a conjugate addition of site, with					DATE							
INITIAL DOCUMENT NUMBER DATE NAME CLASS SUBCLASS IF APP PRIA  AA  AB  AC  AD  AE  AF  AG  AH  AI  AJ  AK  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL/Yes  AL 01/94278 12/13/01 World  AM 02/04466 01/17/02 World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymm conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	FYAMINER		Γ	U.\$	S. PAIE	NI DOCUMENTS	<del></del>		LEILING	DATE		
AB  AC  AD  AE  AF  AG  AH  AI  AJ  AK  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLY  Yes  AL  01/94278  12/13/01  World  AM  02/04466  01/17/02  World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymn conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2		DOCUMENT NUMB		BER	DATE	NAME	CLASS	SUBCLASS	IF APPRO- PRIATE			
AC AD AE AF AG AG AH AI AI AJ AX  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL/Yes  AL 01/94278 12/13/01 World AM 02/04466 01/17/02 World AN AO AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.) Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymn conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 2897-2 AS hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	<u></u>	AA										
AD  AE  AF  AG  AH  AI  AJ  AJ  AX  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS SUBCLASS  TRANSL/Yes  AL  01/94278  12/13/01 World  AM  02/04466  01/17/02 World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymn conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2		AB						<u> </u>				
AE  AF  AG  AH  AI  AJ  AK  FOREIGN PATENT DOCUMENTS  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLA Yes  AL  01/94278  12/13/01  World  AM  02/04466  01/17/02  World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymm AR  conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2		AC					<u> </u>	-				
AF  AG  AH  AI  AJ  AJ  AK  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLATE  Yes  AL  01/94278  12/13/01  World  AM  02/04466  01/17/02  World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymn conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2		AD						<del> </del>	+-			
AG  AH  AI  AJ  AK  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLA  Yes  AL  01/94278  12/13/01  World  AM  02/04466  01/17/02  World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymm conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2							<u> </u>	<del> </del>				
AH  AI  AJ  AK  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLATIVES  Yes  AL  01/94278  12/13/01  World  AM  02/04466  01/17/02  World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Vol. 8, No. 19, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	···········	1							+			
AI  AJ  AK  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLATION  Yes  AL  01/94278  12/13/01  World  AN  02/04466  01/17/02  World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Vol. 8, No. 19, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2						·						
AJ  AK  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLA  Yes  AL  01/94278  12/13/01  World  AM  02/04466  01/17/02  World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry Conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2									+			
FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER  DATE  COUNTRY  CLASS  SUBCLASS  TRANSLAY  Yes  AL  01/94278  12/13/01  World  AN  02/04466  01/17/02  World  AN  AO  AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2							<del> </del>					
AL 01/94278 12/13/01 World  AM 02/04466 01/17/02 World  AN AO AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry Conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2												
AL 01/94278 12/13/01 World  AM 02/04466 01/17/02 World  AN AO AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Pages, Etc.)  AR conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2				FORE	IGN PA	TENT DOCUMENTS			,			
AL 01/94278 12/13/01 World  AM 02/04466 01/17/02 World  AN AO AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry, Pages, Etc.)  AR Conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2		DO	DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATIO									
AM 02/04466 01/17/02 World  AN AO AP  OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry Conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2		<del> </del>	· · · · · · · · · · · · · · · · · · ·	<u> </u>					Yes	No*		
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmatry and conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	AL	01/94	278	12/13/01	World			ļ	<u> </u>	<u> </u>		
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmatry and the conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	AM	02/04	466	01/17/02	World					<u> </u>		
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry Conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	AN	ļ				· · · · · · · · · · · · · · · · · · ·			ļ	<u> </u>		
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmotory conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	AO								<del> </del>	<b>↓</b>		
AR Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetry and conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	AP		<del></del>	<u> </u>				<u> </u>	<u></u>	<u>L</u>		
AR conjugate addition of diethyl zinc to enones with tartrate chiral phosphite ligands", pgs. 3193-3  Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	<del></del> -		OTHER PRIOF	R ART (Inc	luding A	uthor, Title, Date, Per	tinent Pages	, Etc.)	<del></del>			
AS Tetrahedron Letters 42, (month unavailable) 2001, W. Chen and J. Xiao, "Enantioselective hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2		Tetrahedron: Asymmetry, Vol. 8, No. 19, (month unavailable) 1997, A. Alexakis et al., "Asymmetric										
AS hydrogenation with inexpensive, easily available monodentate phosphite ligands", pgs. 2897-2	AR	+								3190		
	AS	-								2000		
I I Andew Chem int Ed (month linavailable) 2000-39 No. 21 M I Reetz and G Mehler "Hidt		+										
AT Enantioselective Rh-Catalyzed Hydrogenation Reactions Based on Chiral Monophosphite Liga	AT											
EXAMINER DATE CONSIDERED		1										
EXAMINER Initial if references considered, whether or not citation is in conformance with MPEP 609: Draw line through if not in conformance	EYAMINED IS	ial if rafe	rences considered wh	ether or not	ritation is in	conformance with MPER	600: Draw line 4	hough if not in a	onformace	2004		
not considered. Include copy of this form with next communication to applicant.								gir ir not in C		anu		

Sheet 2 of 3

Form PTO 1449 U.S. Department of Commerce Rev. 7-80 Patent and Trademark Office				Atty. Docket No. CH-7913/LeA 36.338  Serial No. To Be Assigned									
	T OF P	RIOR ART CITED BY A Several Sheets If Nece	APPLIC/	ANT	Applicant								
	(USE	Several Sileats II Meti	essary)		Benjamin Meseguer Filing Date	et al	Group						
L				II & DATE	Herewith IT DOCUMENTS								
EXAMINER	T	<u> </u>		U.S. PATEN	II DOCUMENTS	1	<del></del>	FILING	DATE				
INITIAL		DOCUMENT NUM	BER	DATE	NAME	CLASS	SUBCLASS	IF AP					
	1				<del> </del>			1					
	AA					<del> </del>	<del> </del>						
	AB				· · · · · · · · · · · · · · · · · · ·								
	AC		}						i				
	AD												
	AE						<del></del>						
	AF					†	<del> </del>						
	AG						<del>                                     </del>		<del></del>				
	AH												
	AI				·								
	AJ												
	AK						7						
	AIX	<u></u>	FO	REIGN PAT	ENT DOCUMENTS	, <u></u> ;							
	DO	CUMENT NUMBER	DAT	TE	COUNTRY	CLASS	SUBCLASS	TRANSL	ATION				
	<b> </b>						ļ	Yes	No*				
AL	<u> </u>				<del></del>								
AM													
AN	<u> </u>				·								
AO								ļ					
AP													
					uthor, Title, Date, Pe								
H 45	<b>  </b>	J. Am. Chem. Soc	. (mon	th unavailab	le) 2000, 122, Miche	l van den Ber	g et al., "High	ly Enantio	) <del>-</del>				
AR	1 1	selective Rhodium-Catalyzed Hydrogenation with Monodentate Ligands", pgs. 11539-11540,											
	Supporting info Pages 1-3 Chem. Commun., (month unavailable) 2000, C. Claver et al., "Biarylphosphonites: a class of												
AS		monodentate phosphorus(III) ligands that outperform their chelating analogues in asymmetric											
1		hydrogentaion catalysis", pgs. 961-962 - Additions and Corrections, page 1 - Supplementary											
<b></b>	1	Material, pgs. 1-3					<del></del>						
├─ <b>┤</b> ∧┯		J. Org. Chem. (mo	onth un	available) 1	997, 62, T.V. RajanB	abu et al., "C	arbohydrate F	hosphini	tes as				
AT		Practical Ligands in Asymmetric Catalysis: Electronic Effects and Dependence of Backbone Chirality in Rh-Catalyzed Asymmetric Hydrogenations. Synthesis of R- or S-Amino Acids Using											
		Natural Sugars as				rialesis of A-	or o-Amino A	wide Uell	צי				
EXAMINER					DATE CONSIDERE	D	<del></del>						
					conformance with MPEP	609: Draw line t	hrough if not in c	onformance	and				
LIOL CONSIDERED.	mclude	copy of this form with	HEXT COM	munication to a	ippiicant.								

Neither English Language Equivalent nor an English Language Translation is available.

F rm PTO 144		U.S. Department of C			Sheet 3 of 3  Atty. Docket No. Serial No.				
Rev. 7-80 LIS		Patent and Trademark RIOR ART CITED BY			CH-7913/LeA 36.338 To Be Assigned Applicant				
	(Use	Several Sheets If Nec	ssary)		Benjamin Mesegue	retal			
					Filing Date Herewith		Group		
EXAMINER			U.S	. PATEN	T DOCUMENTS	<del></del>	· · · · · · · · · · · · · · · · · · ·	1 =	
INITIAL		DOCUMENT NUM	BER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPRO- PRIATE	
	AA	*							
	AB								
	AC							<u> </u>	
<del></del>	AD								
	AE	·						<b>_</b>	
	AF								
	AG					_		<u> </u>	
	АН					_			
	AI	,							
<del></del>	AJ							<u> </u>	
	AK		FORE	ICN DATE	NT DOOUMENT	<u>,                                    </u>			
				IGN PATE	NT DOCUMENTS		<u> </u>	Γ	
	DOC	CUMENT NUMBER	DATE		COUNTRY	CLASS	SUBCLASS	TRANSL Yes	ATION No*
AL	ļ								
AM	ļ	· · · · · · · · · · · · · · · · · · ·							
AN	<u> </u>								
AO									<u> </u>
AP								<u> </u>	<u> </u>
<del></del>	т т	OTHER PRIOR	Catabar (	luding Aut	hor, Title, Date, Pe	ertinent Pages	s, Etc.)		
AR	$\vdash$	phino)tetrahydrofu	ran as Lig	and for As	thesis and Applica symmetric Hydroge	enation of Acry	/lic Acids" , pg	s. 951-9	s- 53
AS									
7.0	1				- <u> </u>				
AT									
EXAMINER					DATE CONSIDERE	:D			

Neither English Language Equivalent nor an English Language Translation is available.